

Final X-ray Assessment Results and Explosive Destruction Technologies (EDT) Path Forward



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Presented to:

**Kentucky Chemical Demilitarization Citizens' Advisory
Commission/Chemical Destruction Community Advisory Board**

Presented by:

Jeff Brubaker

Site Project Manager

Blue Grass Chemical Agent-Destruction Pilot Plant

**A PARTNERSHIP FOR SAFE
CHEMICAL WEAPONS DESTRUCTION**

www.pmacwa.army.mil



**U.S. Army Element, Assembled
Chemical Weapons Alternatives**

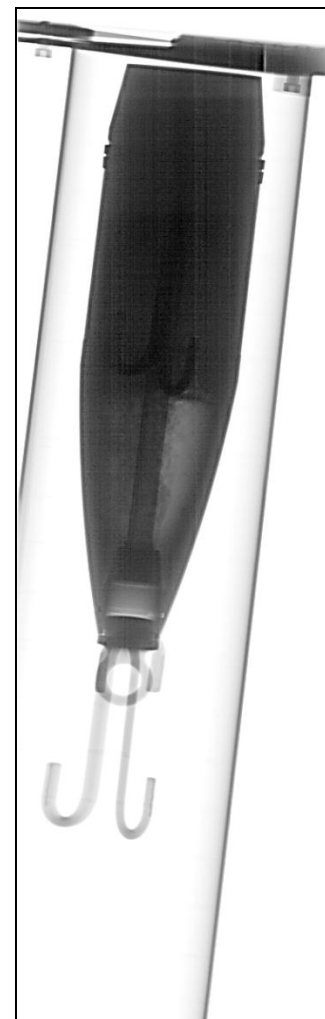
X-ray Assessment Final Findings

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- **All 96 H-filled munitions in sample contained heel**
 - Average heel – 54.8 percent
 - Minimum heel – 15 percent
 - Some weapons were completely solidified
- **36 overpacked munitions had liquid in the fuze well**
 - Two showed liquid inside overpack
- **Estimated average heel for entire stockpile estimated to be between 50.6 and 59 percent**
- **Approximately 6,100 munitions estimated to have greater than 59 percent heel**

Additional
heel along
side

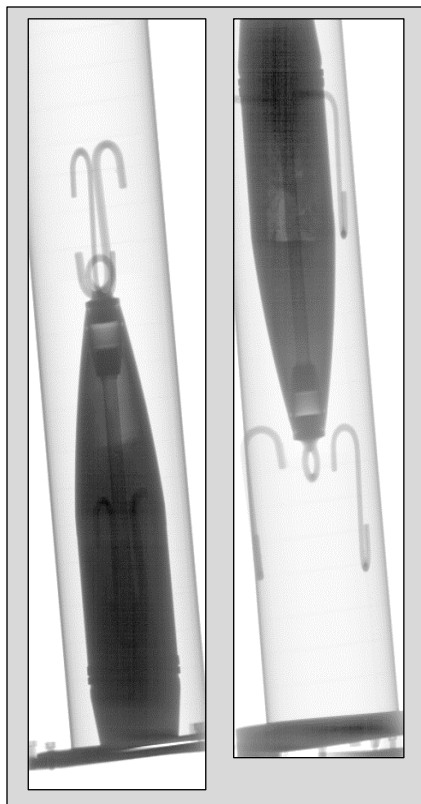
No liquid
line visible



Clearly
visible
heel

Three Options Available

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Images taken May 25, 2011,
courtesy Blue Grass Chemical
Activity.

1) Process problematic projectiles with current BGCAPP design/facility

- Pros: No changes to existing equipment, no additional equipment expenditure, no permit modification required
- Cons: Manual intervention required, worker safety risk increased, strain on equipment, extends H destruction schedule

2) Make design modifications to BGCAPP facility

- Pros: No new permit required
- Cons: Difficult to incorporate changes after construction, some manual intervention still likely, potential increase to worker safety risk, effect on schedule unknown (facility modification and H destruction)

3) Use an EDT to process mustard projectiles

- Pros: Worker safety improved, provides H destruction schedule stability
- Cons: New permit required, additional facility required



Site Project Manager's Insights for Path Forward

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- **Several factors are important to destruction process selection**
 - Worker safety
 - Environmental compliance
 - Process efficiency
 - Cost and schedule
- **Current design has limitations or unknown capability**
 - Ability to remove stuck bursters without manual processing
 - Ability to wash out solidified agent
 - Maintenance concern with transfer of solids past drain step
 - Not able to process large heels in Metal Parts Treater
- **ACWA will work with citizens' groups to receive stakeholder input on considerations for final decision**
- **No final decisions will be made until the National Environmental Policy Act process is complete**



Viability of Path Forward

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- **Project leaders expected X-ray Assessment to show a large number of problematic munitions**
- **In May 2011 ACWA requested that Bechtel Parsons Blue Grass begin an Explosive Detonation Technology (EDT) Feasibility Study**
 - Analysis considered 2009 National Research Council EDT report, other completed EDT studies and recent information from Chemical Materials Agency
 - Researched several questions
 - Can EDT fit into current plant design?
 - Would EDT affect worker safety?
 - Where would an EDT facility be built?
 - Neither non-contaminated rocket motors nor nerve agent munitions were included in the study

Explosive Destruction Technology Feasibility Study

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Considerations

National Research Council
2009 EDT Assessment

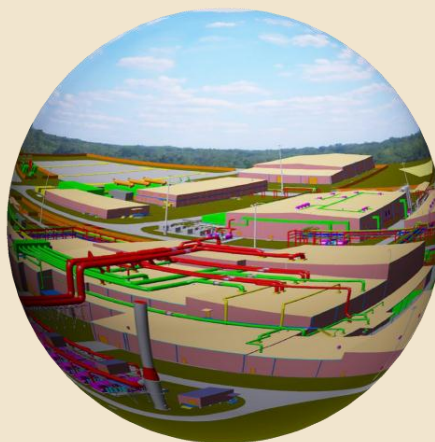
Updated Operational
Experience Within CMA

Regulatory Requirements

Blue Grass Army Depot

Blue Grass
Chemical Activity

BGCAPP Operational Philosophy



- **Protect the workforce, public and environment**
- **Minimize or eliminate human interface with weapons**
- **Minimize or eliminate additional waste streams**

Feasibility Study Deliverables

- 1) Recommend best-value technology**
 - Same technologies offered by National Research Council
- 2) Recommend location on BGCAPP footprint**
 - Located safe distance from personnel buildings, BGCAPP plant, munitions storage igloos
- 3) Develop conceptual life-cycle cost/schedule**



Feasibility Study Recommendations

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- **It is feasible to integrate an Explosive Destruction Technology system for disposal of mustard projectiles at Blue Grass**
 - A smaller facility utilizing planned support resources
- **All three commercial systems likely could process 15,000+ mustard projectiles**
- **Blue Grass site location to address several issues**
 - Maintain safe distance from personnel buildings and munitions storage areas
 - Adapt to existing utilities
 - Must have endorsement of Blue Grass Army Depot and Blue Grass Chemical Activity

Site Project Manager's Recommendation

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- **We are looking to citizens' groups and EDT Working Group for input to these options or additional potential options**
 - Request recommendation by January 2012
- **It is important to me that the community is behind any decision that affects the program**
 - ACWA will remain transparent throughout the decision-making process
 - We will continue to work closely with citizens' groups and the EDT Working Group



Example of stockpile projectile with overpack container.



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Questions?

For more information about the Blue Grass Chemical Agent-Destruction Pilot Plant project, please contact the Blue Grass Chemical Stockpile Outreach Office at (859) 626-8944